# Proposed Report 1



## DEPARTMENT OF THE ARMY

CHIEF OF ENGINEERS 2600 ARMY PENTAGON WASHINGTON, D.C. 20310-2600

## DAEN

SUBJECT: Central Everglades Planning Project, Comprehensive Everglades Restoration Plan, Central and Southern Florida Project.

## THE SECRETARY OF THE ARMY

- 1. I submit for transmission to Congress my report on ecosystem restoration improvements for the Central Everglades Planning Project (CEPP) located in Martin, Lee, Palm Beach, Broward, Miami Dade and Monroe Counties, Florida. It is accompanied by the report of the Jacksonville District Engineer and South Atlantic Division Engineer. These reports are in response to Section 601(b)(1) of the Water Resources Development Act (WRDA) of 2000, which approved the Comprehensive Everglades Restoration Plan (CERP) as a framework for modifications and operational changes to the Central and Southern Florida (C&SF) project that are needed to restore, preserve, and protect the South Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection. WRDA 2000 identified specific requirements for implementing components of the CERP, including the development of a decision document known as a Project Implementation Report (PIR). The requirements of a PIR are addressed in this report and are subject to review and approval by the Secretary of the Army. Preconstruction engineering and design activities for this project will be continued under the CERP Design Agreement.
- 2. The proposed CEPP is comprised of increments of six components of CERP, including the Everglades Agricultural Area (EAA) Storage Reservoir Phase I, which was conditionally authorized by Section 601(b)(2)(C)(ii) of WRDA 2000. However, the reporting officers recommend new authorization consistent with Section 601(d) of WRDA 2000 due to changes in scope and the inclusion of additional CERP components. The reporting officers recommend increments of the following six components of CERP to be integrated with the existing facilities of the C&SF system: Everglades Agricultural Area Storage Reservoirs (Component G); Water Conservation Area (WCA) 3 Decompartmentalization and Sheetflow Enhancement (Components AA and QQ); S-356 Pump Station Modifications (Component FF); L-31 N Improvements for Seepage Management (Component V); System-wide Operational Changes Everglades Rain-Driven Operations (Component H); and Flow to Northwest and Central WCA 3A (Component II).
- 3. The final PIR and integrated Environmental Impact Statement (EIS) recommends a project that contributes significantly to the ecological goals and objectives of CERP: (1) increasing the spatial extent of natural areas; (2) improving habitat function and quality; and (3) improving

<sup>&</sup>lt;sup>1</sup>This report contains the proposed recommendation of the Chief of Engineers. The recommendation is subject to change to reflect Washington level review and comments from federal and state agencies.

native plant and animal abundance and diversity. In addition, it contributes to the economic values and social well being of the project area by providing recreational opportunities and 17 million gallons of water per day of water supply for residents of the Lower East Coast of Florida. The historical Everglades ecosystem was previously defined by a mosaic of uplands, freshwater marsh, deep water sloughs, and estuarine habitats that supported a diverse community of fish and wildlife. Today nearly all aspects of South Florida's flora and fauna have been affected by development, altered hydrology, nutrient input and spread of non-native species that have resulted directly or indirectly from a century of water management for human needs. The PIR confirms information in the CERP and provides a conceptual plan that evaluated the costs and benefits associated with construction and operation of the Central Everglades components of CERP. CEPP will restore the central portion of the Everglades ecosystem towards a state similar to the historic conditions. The project will improve habitat function and quality and improve native plant and animal abundance and species composition and diversity by delivering approximately 210,000 average annual acre feet of additional water to the Everglades.

- 4. The reporting officers recommend a plan for ecosystem restoration and recreation. The Recommended Plan would improve the ecological functions of the South Florida environment, including the Caloosahatchee and St. Lucie Estuaries, WCA 2 and WCA 3, and Everglades National Park (ENP). The CEPP plan includes the following features, listed from north to south in project area:
- a. The EAA includes a 14,000 acre A-2 flow equalization basin (FEB) and associated distribution, inlet, and outlet structures. Operation of the A-2 FEB would be integrated with the future operation of the State's Restoration Strategies features, including the A-1 FEB, and the state's existing Stormwater Treatment Area (STA) 2 and STA 3/4 facilities, to deliver new water south.
- b. WCA 2A and Northern WCA 3A includes a 500 cubic feet/second (cfs) gated culvert to deliver water from the L-6 Canal to the remnant L-5 Canal; a 500 cfs gated spillway to deliver water from the remnant L-5 Canal to the western L-5 Canal (during L-6 diversion operations); a 2,500 cfs gated spillway to deliver water from STA 3/4 to the S-7 Pump Station during peak discharge events (including L-6 diversion operations); approximately 13.6 miles of conveyance improvements to the L-5 Canal; degradation of approximately 2.9 miles of the southern L-4 Levee along the northwest boundary of WCA 3A; 360 cfs pump station to move water within the L-4 Canal to maintain water supply deliveries to retain the existing functionality of STA-5 and STA-6 and maintain water supply to existing legal users, including the Seminole Tribe of Florida; gated culverts and an associated new canal to deliver water from the Miami Canal (south of the S-8 Pump Station, which pulls water from the L-5 Canal) to the L-4 Canal, along with potential design modifications to the existing S-8 and G-404 pump stations; and backfill of approximately 13.5 miles of the Miami Canal with construction of tree islands between 1.5 miles south of the S-8 Pump Station and Interstate Highway I-75.
- c. Southern WCA 3A, WCA 3B, and the Northern Edge of ENP includes a 1,150 cfs gated spillway adjacent to S-333; a 500 cfs gated culvert in L-67A Levee and an associated 6,000 foot gap in L-67C Levee; a flowway through the western end of WCA 3B (two 500 cfs gated culverts

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in L-67A Levee, removal of approximately 8 miles of L-67C Levee, removal of approximately 4.3 miles of L-29 Levee, construction of approximately 8.5 miles of new levee in WCA 3B); a 1,230 cfs gated spillway in L-29 Canal; removal of approximately 5.5 miles of the L-67 Extension Levee and backfill of approximately 5.5 miles of the L-67 Extension Canal; removal of approximately 6 miles of Old Tamiami Trail; and removal of spoil mounds along the northwestern side of the L-67A Canal.

- d. Eastern Edge of ENP includes a 1,000 cfs pump station and an approximately 4.2-mile long, 35 feet deep tapering seepage barrier cutoff wall along the L-31N Levee just south of Tamiami Trail.
- e. Recreational features include gravel parking with boat ramps and trailheads, dry vault toilets, shelters, primitive camping sites, and fishing platforms.
- 5. Although cost sharing of the ecosystem restoration features for this project is governed by Section 601 of WRDA 2000, as amended, cost sharing of the recreation features is governed by Section 103 of the WRDA 1986, as amended. In particular, in accordance with Section 103(j) of WRDA 1986, 100 percent of the cost of Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R) of the recreation features is the non-federal sponsor's responsibility. In addition, section 601(e)(5)(B) of WRDA 2000, as amended, governs credit for non-federal sponsor design and construction work on the ecosystem restoration features of the project, whereas section 221(a)(4) of the Flood Control Act of 1970, as amended (42 U.S.C. 1962d-5b(a)(4)), governs credit for non-federal sponsor design and construction work on the recreation features of the project.
- 6. The total first cost of the Recommended Plan from the final PIR, based upon October 2013 price levels, is estimated to be \$1,900,000,000. Total first cost for the ecosystem restoration features is estimated to be \$1,894,000,000 and for recreation is estimated to be \$6,000,000. In accordance with the cost-sharing requirements of Section 601(e) of WRDA 2000, the costs are shared 50-50 between the government and non-federal sponsor. However, the government is responsible for 100% of cultural resources data recovery costs (up to 1% of total project costs). Therefore, the federal cost of the recommended plan would be \$950,875,000 and the non-federal cost would be \$949,125,000. The estimated lands, easements, right-of-way, and relocation (LERRs) costs for the recommended plan are \$37,000,000, of which approximately \$31,000,000 is creditable to the government and approximately \$6,000,000 are creditable to the non-federal sponsor. Federal funds contributed by Department of Interior (DOI) pursuant to Section 390 of the Federal Agriculture Improvement and Reform Act of 1996 (Public Law 104-127, 110 Stat. 1022) are credited to the federal share of the project cost pursuant to Section 601(e)(3) of WRDA 2000. DOI contributed approximately \$30,300,000 toward the purchase of the lands associated with the A-2 FEB and FEB Discharge Canal.
- 7. Based on October 2013 price levels, a 50-year period of economic evaluation and a 3.5 percent discount rate, the equivalent annual cost of the proposed project is estimated at \$100,000,000, which includes OMRR&R, interest during construction and amortization. The estimated annual costs for restoration OMRR&R are \$11,250,000, of which \$4,150,000 is

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attributed to new CEPP infrastructure; \$4,000,000 to flowing water through existing state and C&SF infrastructure; and \$3,100,000 to invasive species management. Post construction monitoring will occur during 10-year cycles for invasive species and performance-based ecological monitoring (\$2,700,000 annually for up to 10 years). Permit-related monitoring and monitoring that informs project operations will also be conducted (\$2,800,000 annually) and this monitoring will be assessed periodically and revised as needed. The OMRR&R costs for recreation features are estimated at \$65,000 and are a non-federal responsibility.

- 8. As a component of the CERP program, an interagency/interdisciplinary scientific and technical team, formed to ensure that system-wide goals are met, will participate in the annual monitoring to assess system-wide changes. In accordance with Sections 601(e)(4) and 601(e)(5)(D) of WRDA 2000, OMRR&R costs and adaptive assessment and monitoring costs for ecosystem restoration will be shared equally between the federal government and the non-federal sponsor. The Project Monitoring Plan was developed assuming that major, ongoing monitoring programs that are not funded by the project would continue to supply data relevant to the Project. The Project Monitoring Plan shall not include items that are already required to be monitored by another federal agency or other entity as part of their regular responsibilities or required by law. In accordance with Section 103(j) of the WRDA 1986, as amended, OMRR&R costs related to recreation features will be funded 100 percent by the non-Federal sponsor.
- 9. The Recommended Plan requires the use of several state facilities constructed and operated pursuant to state permits. The facilities are necessary for the state to meet Clean Water Act requirements as approved by the U.S. Environmental Protection Agency, and as litigated by the U.S. Department of Justice. Some of these requirements are currently subject to a Settlement Agreement filed with and overseen by the federal district court. These facilities, as named below and herein after referred to as the "state facilities", are to be used by CEPP until such time as CEPP is deauthorized or it is determined that use of the state facilities are no longer necessary for the purpose of achieving CEPP project purposes. The State of Florida is responsible for OMRR&R of their State Restoration Strategies and Everglades Construction Project facilities. The reporting officers recommend authorization of CEPP with specific statutory language allowing cost share of the OMRR&R for the following state facilities not previously cost shared by the government for construction under the C&SF project or other federal authority, and listed C&SF features that are currently cost shared pursuant to executed Resolutions: Stormwater Treatment Area 2; Stormwater Treatment Area 3/4; Flow Equalization Basin A-1; G-357 Gated Culvert; G-370 Pump Station; G-371 Gated Spillway; G-372 Pump Station; G-404 Pump Station; G-434 Pump Station; G-435 Pump Station; S-6 Pump Station; S-7 Pump Station; S-8 Pump Station; and S-150 Gated Culverts and their corresponding remote-control facilities. All features required for the State's Restoration Strategies and the Everglades Construction Project are independent state facilities and are not CEPP components or features. The state facilities will not be incorporated as federal CEPP project features; however, the operation of state facilities is required to ensure that new water made available by CEPP meets water quality standards and achieves CEPP project benefits.
- a. The state retains sole responsibility for performing operations activities at state facilities pursuant to State Operations Plan, with the exception of the FEB A-1 which will be integrated

with FEB A-2 and operated pursuant to a mutually agreed upon water control plan. The joint water control plan for the FEBs will integrate the operation of CEPP and the operation of the state facilities used by CEPP. The State has agreed that the U.S. Army Corps of Engineers (USACE) shall have the opportunity to collaborate, review, and comment on the OMRR&R of the state facilities used by CEPP, including updates to optimize operations to achieve federal project purposes. This is intended to ensure continuous achievement of CEPP project purposes and support the federal interest in cost sharing OMRR&R. To the extent applicable, any operational modifications to the state facilities as defined in the PIR that would impair the usefulness of any USACE project, including all CEPP and other CERP and C&SF project features, may require a 33 U.S.C. Section 408 permit from the USACE.

- b. The aforementioned state facilities will use excess capacity to process "new water" provided by CEPP, which has been estimated to comprise approximately 19% of the total water volume that could flow through these facilities. The reporting officers have assumed that OMRR&R costs are linear with flow volumes and thus the additional increase in OMRR&R costs due to the increased flow volumes will be 19% of the total OMRR&R costs. Consistent with the general CERP authorization for cost sharing OMRR&R (WRDA 2000 Section 601(e)(4)), the reporting officers recommend authorization of CEPP to contribute 19% of the OMRR&R costs of the aforementioned state facilities to the extent that OMRR&R activities are directly related to their use for treating "new water". The federal pro-rated share for OMRR&R for the aforementioned facilities used by CEPP is therefore 50% of the 19%, or 9.5% of the total OMRR&R costs. The 19% CEPP cost share will apply to the state facilities and C&SF features listed above to the extent that OMRR&R activities are directly related to their use for treating "new water".
- c. The reporting officers recommend that project authorization include specific statutory language allowing the government to cost share 19% of the yearly OMRR&R costs of state facilities and listed C&SF features with appropriations made available for CERP OMRR&R activities. The term "OMRR&R costs" is defined the same as the term "project OMRR&R costs" in Article I.E. of the Master Agreement between the Department of the Army and the nonfederal sponsor dated August 13, 2009. As a condition of the federal cost share, prior to commencing replacement and rehabilitation actions for the state facilities listed above that CEPP is dependent on, approval by USACE Headquarters and the Assistant Secretary of the Army (Civil Works) is required as set forth in Section 6.6.2 of the PIR.
- d. No cost share of the aforementioned state facilities shall commence before the date that the CEPP project produces "new water" and the associated federal project feature is declared construction complete and the state assumes its OMRR&R responsibilities as established in the appropriate project partnership agreements. Similarly, no cost share for state facilities is allowed until the state facilities are shown to be construction complete and the state begins regular operation of such facility. Additionally, the state facilities will be monitored for the number of years required by the Settlement Agreement and be shown to be in compliance with water quality requirements prior to the addition of CEPP flows.

- e. The reporting officers recommend that after CEPP has operated for an appropriate period of time, an analysis based on monitoring data be undertaken to evaluate project performance and verify that CEPP successfully delivers an annual average of approximately 210,000 acre-feet of new water for the natural system as described in the PIR.
- i. If the monitoring data and analysis show that CEPP actually produces less than the anticipated 210,000 acre feet per year on average, then the federal project is not fully realizing the projected benefits and the state facilities are not being burdened as projected. In such a case, the analysis will be used to inform changes in operations in order to achieve the quantity, timing or distribution of water as described in this PIR, or recommend changes to the amount of water to be reserved or allocated to the natural system.
- ii. If the monitoring data and analysis show CEPP actually processes significantly more or less than the anticipated 210,000 acre-feet per year of "new water" on average then the analysis may be used to adjust the calculation of OMRR&R cost share upward or downward to reflect the actual average annual use of excess capacity by the federal project. This will be accomplished through consultation with the state and USACE Headquarters and is necessary after operations have begun to capture the true federal interest and cost share responsibility.
- iii. It must be recognized that these state facilities are subject to legal requirements outside of the federal project and will not be operated in such a manner that the federal project will cause exceedances of the state's water quality requirements under state National Pollutant Discharge Elimination System (NPDES) and Everglades Forever Act (EFA) permits and associated Consent Orders. Such state requirements may limit the anticipated federal project benefits.
- 10. A number of non-CEPP projects must be in place before implementing any CEPP features and certain non-CEPP projects must be integrated into the sequencing of CEPP implementation to avoid unintended adverse consequences. All features of the State's Restoration Strategies must be completed and meet state water quality standards prior to initiating construction of most CEPP project features. Implementation of CEPP will occur over many years and the reporting officers recommend that the project be constructed in three phases that are considered separable elements with inter-related project features grouped to provide incremental hydrologic and ecological benefits. The three implementation phases are PPA North, PPA South, and PPA New Water and the features included in each are identified in the PIR. The phased implementation approach incorporates an adaptive implementation process and recommendations of the National Research Council, maximizing the opportunity to realize incremental restoration benefits by initially building features that utilize existing water in the system that meets state water quality standards. Individual project partnership agreements, or amendments to existing project partnership agreements, will be executed prior to construction of each implementation phase. The project dependencies include:
- a. A-1 FEB and State Restoration Strategies: Required prior to implementation of northern WCA 3A distribution features (L-4 degrade, new pump station, S-8 Modifications, L-5 and L-6 improvements, Miami Canal Backfilling) to ensure adequate water quality treatment of inflows;

- b. 8.5 Square Mile Area (SMA) and Existing S-356: Construction of the C-358 seepage collector canal and structure S-357N within the 8.5 SMA must be completed to allow full utilization of the 8.5 SMA features to provide seepage mitigation for increasing flows into Northeast Shark River Slough (NESRS); operation of the existing S-356 pump station (500 cfs) is required prior to significantly increasing flows to NESRS, to provide seepage management;
- c. C-111 South Dade: Extension of the detention area levees to connect with 8.5 SMA is required prior to significantly increasing flows to NESRS to enable operation of the S-357 pump station to provide seepage management to 8.5 SMA;
- d. Modified Water Deliveries (MWD) to ENP 1-Mile Bridge and Road Raising: The MWD project will be complete and operational prior to implementation of WCA 3B inflow structures along the L-67A&C levees or increasing flows through existing S-333 to NESRS to ensure adequate road protection to allow for increased stages in L-29 canal;
- e. Broward County Water Preserve Area (BCWPA) C-11 Impoundment: Required prior to increasing flow through S-333 or implementation of WCA 3B inflow structures along the L-67A&C levees to ensure adequate water quality of inflows to WCA 3B and NESRS;
- f. Tamiami Trail Next Steps Bridging and Road Raising: Required prior to increasing capacities of S-333 and S-356 and implementation of WCA 3B inflow structures along the L-67A levee, gaps in L-67C levee and Blue Shanty flowway (L-67C removal, L-29 levee removal);
- g. Indian River Lagoon (IRL) South C-44 Reservoir and Connection to C-23 Canal: Required prior to re-directing the maximum amount of water from Lake Okeechobee south to the FEB to meet environmental performance, to avoid reduction in low flows to the St. Lucie Estuary and low Lake Okeechobee water levels that affect the Lake Okeechobee Service Area (LOSA); and
- h. Modification to the Lake Okeechobee Regulation Schedule (LORS) is anticipated prior to full utilization of the A-2 FEB in order to achieve the complete ecological benefits envisioned through redirecting the full 210,000 acre feet per year on average south and to avoid low lake levels that would affect the LOSA.
- 11. To ensure that an efficient ecosystem restoration plan was recommended, cost effectiveness/incremental cost analysis (CE/ICA) techniques were used to evaluate alternative restoration plans for system wide restoration. The engineering and planning models utilized to estimate the outputs that were used in the economic analysis were both reviewed and approved for use in the project. The plan recommended for implementation is the conceptual National Ecosystem Restoration (NER) plan, supports the incremental adaptive restoration principles established by the National Research Council, and was prepared in a collaborative environment. Further investigations are required during pre-construction engineering and design phase for each project feature to determine specific site conditions, develop detailed designs and operations, and evaluate environmental impacts. Further coordination and consultation may be

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required to fully comply with the Endangered Species Act, the Clean Water Act, the National Historic Preservation Act, and the National Environmental Policy Act prior to construction of individual project components.

- a. The Recommended Plan benefits more than 1.5 million acres in the Caloosahatchee and St. Lucie Estuaries, WCA 3A, WCA 3B, ENP, and Florida Bay. The benefits to approximately 994,000 acres in WCA 3A, WCA 3B and ENP are derived by increasing the quantity of freshwater inflow to the natural system by 22% and improving sheetflow through the system. This will improve the depths, duration, and movement of water that will help to restore and sustain the ridge and slough landscape. Reducing high volume freshwater discharges from Lake Okeechobee to the Caloosahatchee and St. Lucie Estuaries by 14% and 34% (respectively), improves approximately 86,000 acres in these estuaries by reducing turbidity, sedimentation, and moderating unnatural fluctuations in salinity that are extremely detrimental to estuarine communities. A 28% increase in the quantity of freshwater sent to ENP will bring the benefits to the Everglades as described above, and then when the water reaches Florida Bay at the southern end of the system it will reduce the intensity, frequency, and duration of hypersaline events in the Bay across approximately 476,000 acres. An average salinity decrease of 1.5 parts per thousand will help to re-establish a persistent and resilient estuarine zone that extends further into the bay.
- b. In accordance with WRDA 2000 Section 601(f)(2), individual CERP projects shall be justified by the environmental benefits derived by the South Florida ecosystem. The Recommended Plan improves fish and wildlife habitat in the Caloosahatchee and St. Lucie Estuaries, WCA 3, ENP, and Florida Bay. The Everglades has been designated an International Biosphere Reserve (1976) and a World Heritage Site (1979) by the United Nations Educational, Scientific, and Cultural Organization, and a Wetland of International Importance (1987) in accordance with the Ramsar Convention. The portion of the Everglades ecosystem directly affected by the project provides habitat for 68 federally-listed endangered or threatened species. Programmatic consultation pursuant to Section 7 of the Endangered Species Act (ESA) was conducted on four federally listed species and it was preliminarily determined that CEPP was not likely to jeopardize the continued existence of the Everglade snail kite, Cape Sable seaside sparrow, wood stork, and eastern indigo snake, nor adversely modify the critical habitat, where applicable, of the species listed above.
- 12. Section 601(e)(5)(B) of WRDA 2000 authorizes the Secretary of the Army to provide credit to the non-federal sponsor for work completed by it during the period of construction pursuant to a project partnership agreement and a determination by the Secretary that the work is integral to the CERP. Such credit would be applied toward the non-federal sponsor's share of the costs associated with the implementation of the CERP as authorized by Section 601(e)(5)(C) of WRDA 2000, shall not include cash reimbursements, and shall be subject to: (a) the authorization of CEPP by law; (b) a determination by the Secretary of the Army that the activities are integral to the CERP restoration project; (c) that the costs are reasonable, allowable, necessary, auditable, and allocable; and (d) that the activities have been implemented in accordance with USACE design and construction standards and applicable federal and state laws.

- 13. The project complies with the following requirements of WRDA 2000:
- a. Project Implementation Report. The requirements of a PIR as defined by Section 601(h)(4)(A).
- b. Water Made Available for the Natural System, Water to be Reserved or Allocated for the Natural System and Water for Other Water-Related Needs. Sections 601(h)(4)(A)(iii)(IV) and (V) require identification of the appropriate quantity, timing, and distribution of water dedicated and managed for the natural system and the amount of water to be reserved or allocated for the natural system. In accordance with the regulations, an analysis was conducted to identify water dedicated and managed for the natural system. Accordingly, the non-federal sponsor will protect the water that was identified as necessary to achieve the benefits of the project, using water reservation or allocation authority under Florida law, subject to the provisions of Paragraph 9(e)(i) of this Report.
- c. Effects on Existing Legal Sources of Water. Section 601(h)(5)(A) states that existing legal sources of water shall not be eliminated or transferred until a new source of water supply of comparable quantity and quality is available to replace the water to be lost as a result of the CERP. An analysis of project effects on existing legal sources of water was conducted and it was determined that sources of water to meet agricultural and urban demand in the LOSA and Lower East Coast Service Areas (LECSAs) will continue to be met by their current sources, primarily Lake Okeechobee, the Everglades (including the WCAs), surface water in the regional canal network, and the surficial aquifer system. Sources of water for the Seminole Tribe of Florida and Miccosukee Tribe of Indians of Florida are also influenced by the regional water management system (C&SF Project, including Lake Okeechobee); however these sources will not be affected by the CEPP project. In addition, water supplies to ENP with implementation of the recommended plan exceed future without project and existing condition baseline volumes. Water sources necessary for fish and wildlife located in the Caloosahatchee and St Lucie Estuaries, WCA 2, WCA 3, Biscayne Bay, and Florida Bay will not be diminished.
- i. There will be no elimination or transfer as a result of the Recommended Plan on existing legal sources of water supply for the following:
  - Agricultural or urban water supply in the LECSA.
  - Allocation or entitlement to the Seminole Tribe of Florida under Section 7 of the Seminole Indian Land Claims Settlement Act of 1987 (25 U.S.C. 1772e).
  - The Miccosukee Tribe of Indians of Florida.
  - Water supply for ENP.
  - Water supply for fish and wildlife.
- ii. Some of the water utilized by agricultural users in the LOSA from Lake Okeechobee will be transferred to WCA 3 and further south as a result of the implementation of the recommended plan. This transfer is anticipated to occur after the modification of the LORS that will allow full utilization of the A-2 FEB; the CEPP PIR anticipates that the need for modifications to the LORS will be initially triggered by non-CEPP actions and that these actions

will occur earlier than implementation of CEPP. The Recommended Plan has identified an additional source of water of comparable quantity and quality that will be available to replace the water sent south. Instead of discharging all water stored in the CERP Indian River Lagoon-South C-44 Reservoir/STA to tide via the S-80 or to meet C-44 Basin agricultural water supply demands, as assumed in the future without project baseline condition operations, the Recommended Plan retains a portion of the water stored in the C-44 Reservoir/STA in the regional system for backflow to Lake Okeechobee via the C-44 Canal and raises the Lake Okeechobee stage criteria to allow increased C-44 Canal backflow. This added operation does not affect existing permitted allocations within the C-44 Basin. The additional C-44 Canal backflow operations to Lake Okeechobee included in the Recommended Plan improves the ability to meet existing permitted demands in the LOSA by retaining more water in the regional system and making it available to agricultural users. The Recommended Plan backflow operations capture a portion of releases from the C-44 Reservoir/STA that would otherwise be directed to the Saint Lucie Estuary as excess water.

- d. Maintenance of Flood Protection. Section 601 (h)(5)(B) states that the Plan shall not reduce levels of service for flood protection that are in existence on the date of enactment of this Act and in accordance with applicable law. Comparison of canal stages and groundwater levels indicate that implementation of the project will not reduce the levels of service for flood protection within the areas affected by the project, including the EAA, LECSA 2 (Broward County), and LECSA 3 (Miami-Dade County). This includes the areas affected by the project including the Seminole Tribe of Florida's Big Cypress Reservation and the Miccosukee Tribe of Indians of Florida's reservation areas.
- 14. On April 10, 2014, the South Florida Water Management District's (SFWMD) Governing Board (Board) passed Resolution Number 2014-0410, authorizing a letter of support for the CEPP, and affirming financial capability to act as the non-federal sponsor.
- a. While recognizing the environmental restoration benefits of the proposed project, the Board also noted the increase in water supply for Broward and Miami-Dade Counties, maintenance of water supply for the agricultural users, and maintenance of current levels of flood protection. The Board also recognized that CEPP is dependent upon other CERP and non-CERP projects and will be phased with multiple Project Partnership Agreements.
- b. The Board based its implementation, approval, or operation of CEPP Projects upon several conditions. Funding for CEPP was conditioned on the future approval of state and SFWMD budgets by the state legislature, Governor, and the SFWMD Governing Board. The Board also requires that water quality issues be resolved prior to implementation of CEPP projects. The state is currently subject to a Consent Decree (US v. SFWMD, et al., Case No. 88-1886-CIV-Moreno (U.S.D.C., S.D. Fla.)) and state water quality permits requiring certain actions to maintain the state's compliance with the Clean Water Act. Under the Consent Decree there is a compliance methodology prescribed for the state in Appendix A. In this regard, the Board has stated conditions for its support of CEPP requiring a "mutually agreed upon revised compliance methodology of the Consent Decree (Appendix A) or mutually agreed upon joint measures which may be needed in the event of an exceedance of Appendix A (i.e., the water

quality standard) resulting from change in operation of a federal project." If such conditions are not met the Board goes on to state it "will preclude the SFWMD from implementing, approving, or operating CEPP Projects."

- i. The two conditions described in the Board's Resolution, changing the compliance methodology and joint measures for addressing a future exceedance, are worded differently than the previous agreements on the issue of water quality and seem to require specific outcomes prior to state approval of CEPP. The Consent Decree is a judicially enforceable legal instrument overseen by a federal district court judge. Changes to that Decree are not within the unilateral authority of the United States and/or the State of Florida. Any changes are subject to review and actions by the several parties involved in the litigation and ultimately are subject to the review, alteration, rejection, and/or order of the court. Such an action is beyond the control of both the USACE and the non-federal sponsor for the CEPP project.
- ii. In addition, the Board seems to presuppose that "joint measures" will be necessary to address any prospective exceedance of state water quality requirements. An exceedance requires a review of the event not only to determine causation, but to also determine what if any measures are necessary to address the exceedance, jointly or otherwise. By way of example, the Technical Oversight Committee under the Consent Decree agreed that no further action was necessary to address issues raised by monitoring under Water Year 2012. Establishing joint measures to address an exceedance which has not occurred is not within the scope of the CEPP project and would not be appropriate.
- iii. The conditions established in the Resolution do not mirror the language negotiated by the Assistant Secretary of the Army (Civil Works) with the non-Federal sponsor and placed in Section of 8 of the PIR. The PIR language was negotiated with the non-Federal sponsor precisely to develop a process for addressing future water quality issues and was to have been the resolution of that concern. That language is actually cited by the Board in their Resolution, immediately following the conditions described above. The negotiated language does not require changes in the compliance methodology of Appendix A prior to non-Federal sponsor support, nor does it require that joint measures be prescribed prior to an exceedance occurring. Instead, the negotiated language acknowledges a process by which these issues may be addressed and does not presuppose the outcome. As mentioned above, this was the successful process that was implemented to address the Water Year 2012 monitoring issues.
- c. In the Board's resolution of support, they cite the negotiated language as what should be used to govern water quality issues with regard the implementation and operation of CEPP project features. The negotiated language in Section 8 of the PIR, and presented below in paragraph 19, has been agreed upon and is the federal government's understanding of how such issues will be addressed.
- d. Finally, recognizing that CEPP has only received from the U.S. Fish and Wildlife Service a Programmatic Biological Opinion per Section 7 of the ESA for three species that may be adversely affected by the recommended plan, the Board has also conditioned its support of CEPP on the Board's approval of project requirements in future Biological Opinions resulting from

Section 7 consultations, prior to execution of any Project Partnership Agreements for CEPP features.

- 15. Due to the high risks and uncertainties associated with CEPP, the long implementation time, and the significant dependencies on other CERP and non-CERP projects, a number of risk management measures have been developed to ensure future coordination with USACE Headquarters and, as needed, the Office of the Assistant Secretary of the Army (Civil Works):
- a. Annual In-Progress Review Briefing: This update will address overall project progress and key uncertainties and/or decisions required as implementation progresses. It will include an update on implementation of CEPP features and those non-CEPP projects on which CEPP is dependent;
- b. Analysis of operations at state facilities in providing needed capacity for CEPP flows after CEPP is implemented;
- c. Coordination and approval for the government to cost share OMRR&R of additional state facilities not identified in the PIR;
- d. Coordination and approval for the government to cost share replacement and rehabilitation actions at state facilities;
- e. During PED, vertical coordination to define activities at state facilities as repair, replacement and rehabilitation actions.
  - f. Coordination and approval for any changes to the three CEPP implementation phases;
- g. Coordination and approval of appropriate course of action should state water quality compliance not be met after construction and operation of CEPP;
- h. Coordination and approval of Biological Opinions issued per Section 7 of the Endangered Species Act. Notification of the development of any additional NEPA documents, or supplements to NEPA documents, whether Environmental Impact Statements or Environmental Assessments. Determination of further coordination or approvals will be done after initial coordination.
- i. Coordination and approval to use less than a fee estate, including any permits or other instruments obtained for real estate interests other than the provision of fee property for the project, except for the temporary construction easements and the borrow easements, which are approved.
- j. USACE policies and procedures will generally be followed for coordination and approval of Project Partnership Agreements, Post-Authorization Change Reports, and Section 408 permits for modifications to federal projects, with early vertical coordination on policy and legal issues.

- 16. In accordance with the USACE Engineering Circular on review of decision documents, all technical, engineering, and scientific work underwent an open, dynamic, and vigorous review process to ensure technical quality. This included District Quality Control, (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and a USACE Headquarters policy and legal review.
- a. All concerns of the DQC and ATR have been addressed and incorporated into the final report.
- b. The IEPR was managed by Battelle Memorial Institute, a non-profit science and technology organization with experience in establishing and administering peer review panels for the USACE. Eight comments were identified and documented. The comments of high significance were related to potential adverse impacts to cultural resources associated with two federally recognized Native American tribes. Additional information regarding compliance with applicable laws and regulations was provided and the final PIR/EIS included clarification of the plan of action to address cultural resources. All IEPR comments have been addressed in the final report.
- c. Washington level review indicates that the plan recommended by the reporting officers is environmentally justified, technically sound, cost effective, and socially acceptable. The plan conforms to essential elements of the 1983 U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies and complies with other administration and legislative policies and guidelines. The views of interested parties, including federal, state and local agencies have been considered.
- 17. I generally concur with the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the plan described herein for ecosystem restoration and recreation be authorized in accordance with the reporting officers' recommended plan at an estimated cost of \$1,900,000,000, with such modifications as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost-sharing, financing, and other applicable requirements of federal laws and policies including Section 601 of WRDA 2000, as amended. In addition, I recommend that the non-federal sponsor be authorized to receive credit for work accomplished prior to execution of a PPA for this project, in accordance with the terms described in paragraph 18 of this report. The non-federal sponsor would provide the non-federal cost share and all lands, easements, rights of way, relocations, and dredged or excavated material disposal areas. The non-federal sponsor would be responsible for all OMRR&R.
- 18. This recommendation is subject to the non-federal sponsor agreeing to comply with all applicable federal laws and the following items of local cooperation:
- a. Provide 50 percent of total project costs consistent with the provisions of Section 601(e) of WRDA 2000, as amended, including authority to perform design and construction of project features consistent with federal law and regulation;

- b. Provide all lands, easements, and rights-of-way, including suitable borrow and dredged or excavated material disposal areas, and perform or assure the performance of all relocations that the government and the non-federal sponsor jointly determine to be necessary for the construction and OMRR&R of the project and valuation will be in accordance with the Master Agreement;
- c. Shall not use the ecosystem restoration features or lands, easements, and rights-of way required for such features as a wetlands bank or mitigation credit for any other non-CERP projects;
- d. Give the government a right to enter, at reasonable times and in a reasonable manner, upon land that the non-federal sponsor owns or controls for access to the project for the purpose of inspection, and, if necessary, for the purpose of constructing, completing, operating, maintaining, repairing, replacing, or rehabilitating the project;
- e. Assume responsibility for OMRR&R of the project or completed functional portions of the project, including mitigation features, in a manner compatible with the project's authorized purposes and in accordance with applicable federal and state laws and specific directions prescribed in the OMRR&R manuals and any subsequent amendments thereto. Cost sharing for OMRR&R will be in accordance with Section 601(e) of WRDA 2000, as amended. Notwithstanding Section 528(e)(3) of WRDA 1996 (110 Stat. 3770), the non-federal sponsor shall be responsible for 50 percent of the cost of OMRR&R activities authorized under this section;
- f. The State of Florida shall provide the Corps an opportunity to collaborate, review and comment on the State Operations Plans for the state facilities used by CEPP, including updates to optimize operations for federal project purposes;
- g. The non-federal sponsor shall OMRR&R the recreational features of the project and is responsible for 100 percent of the cost;
- h. Keep the recreation features, and access roads, parking areas, and other associated public use facilities, open and available to all on equal terms;
- i. Unless otherwise provided for in the statutory authorization for this project, comply with Section 221 of the Flood Control Act of 1970 (Public Law 91-611), as amended, and Section 103 of WRDA 1986 (Public Law 99-662), as amended, which provides that the Secretary of the Army shall not commence the construction of any water resources project or separable element thereof, until the non-federal sponsor has entered into a written agreement to furnish its required cooperation for the project or separable element;
- j. Hold and save the government free from all damages arising from construction and OMRR&R of the project and any project-related betterments, except for damages due to the fault or negligence of the government or the government's contractors;

- k. Keep and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project to the extent and in such detail as will properly reflect total project costs in accordance with the Master Agreement between the Department of the Army and the non-federal sponsor dated August 13, 2009, including Article XI Maintenance of Records and Audit;
- 1. Perform, or cause to be performed, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC 9601-9675, that may exist in, on, or under lands, easements or rights-of-way necessary for the construction, operation, and maintenance of the project; except that the non-federal sponsor shall not perform such investigations on lands, easements, or rights-of-way that the government determines to be subject to the navigation servitude without prior specific written direction by the government;
- m. Assume complete financial responsibility for all necessary cleanup and response costs of any CERCLA regulated materials located in, on, or under lands, easements, or rights-of-ways that the government determines necessary for construction, operation, maintenance, repair, replacement and rehabilitation;
- n. As between the government and the non-federal sponsor, the non-federal sponsor shall be considered the operator of the project for purposes of CERCLA liability. To the maximum extent practicable, the non-federal sponsor shall OMRR&R the project in a manner that will not cause liability to arise under CERCLA;
- o. Prevent obstruction of or encroachments on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) such as any new developments on project lands, easements, and rights-of-way or the addition of facilities which might reduce the outputs produced by the ecosystem restoration features, hinder operation and maintenance of the project, or interfere with the project's proper function;
- p. Comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), as amended by title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 CFR part 24, in acquiring lands, easements, and rights-of-way, and performing relocations for construction, operation, and maintenance of the project, and inform all affected persons of applicable benefits, policies, and procedures in connection with said act;
- q. Comply with all applicable federal and state laws and regulations, including, but not limited to, Section 601 of the Civil Rights Act of 1964 (Public Law 88-352 [42 U.S.C. 2000d]) and Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army;" and all applicable federal labor standards requirements including, but not limited to, 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708

(revising, codifying and enacting without substantive change the provisions of the Davis-Bacon Act [formerly 40 U.S.C. 276a et seq.], the Contract Work Hours and Safety Standards Act [formerly 40 U.S.C. 327 et seq.] and the Copeland Anti-Kickback Act [formerly 40 U.S.C. 276c]);

- r. Comply with Section 106 of the National Historic Preservation Act in completion of all consultation with the Florida State Historic Preservation Officer, and other interested parties including federally recognized Tribes and as necessary, the Advisory Council on Historic Preservation, prior to construction as part of the Preconstruction Engineering and Design phase of the Project;
- s. Provide 50 percent of that portion of total data recovery activities associated with historic preservation that exceed one percent of the amount authorized to be appropriated for CEPP; data recovery costs under one percent of the authorized CEPP cost will be funded in its entirety by the government. Any costs of data recovery that exceed one percent of the amount authorized to be appropriated for CEPP shall not be included in project construction costs or project OMRR&R costs (as defined by the Master Agreement); therefore, credit shall not be afforded to the nonfederal sponsor for costs or work in kind associated with data recovery activities that exceed one percent of the amount authorized to be appropriated for CEPP;
- t. Do not use federal funds to meet the non-federal sponsor's share of total project costs unless the federal granting agency verifies in writing that the expenditure of such funds is expressly authorized and in accordance with Section 601 (e)(3) of WRDA 2000, as amended, and in accordance with the Master Agreement;
- u. The non-federal sponsor agrees to participate in and comply with applicable federal floodplain management and flood insurance programs consistent with its statutory authority:
- i. Not less than once each year the non-federal sponsor shall inform affected interests of the extent of protection afforded by the project;
- ii. The non-federal sponsor shall publicize flood plain information in the area concerned and shall provide this information to zoning and other regulatory agencies for their use in preventing unwise future development in the flood plain and in adopting such regulations as may be necessary to prevent unwise future development and to ensure compatibility with protection levels provided by the project;
- iii. The non-federal sponsor shall comply with Section 402 of WRDA 1986, as amended (33 U.S.C. 701b-12), which requires a non-federal interest to have prepared, within one year after the date of signing a project partnership agreement for the project, a floodplain management plan. The plan shall be designed to reduce the impacts of future flood events in the project area, including but not limited to, addressing those measures to be undertaken by non-federal interests to preserve the level of flood protection provided by the project. As required by Section 402, as amended, the non-federal interest shall implement such plan not later than one

year after completion of construction of the project. The non-federal sponsor shall provide an information copy of the plan to the government upon its preparation;

- iv. The non-federal sponsor shall prescribe and enforce regulations to prevent obstruction of or encroachment on the project or on the lands, easements, and rights-of-way determined by the government to be required for the construction and OMRR&R of the project, that could reduce the level of protection the project affords, hinder operation or maintenance of the project, or interfere with the project's proper function.
- v. The non-federal sponsor shall execute, or certify that the Florida Department of Environmental Protection (FDEP) executed, under state law the reservation or allocation of water for the natural system as identified in the PIR as required by Section 601(h)(4)(B)(ii) of WRDA 2000 and the non-federal sponsor shall provide information to the government regarding such execution. In compliance with 33 CFR 385, the District Engineer will verify such reservation or allocation in writing. Any change to such reservation or allocation of water shall require an amendment to the project partnership agreement after the District Engineer verifies in writing in compliance with 33 CFR 385 that the revised reservation or allocation continues to provide for an appropriate quantity, timing, and distribution of water dedicated and managed for the natural system after considering any changed circumstances or new information since completion of the PIR for the authorized CERP project.
- w. Consistent with the September 14, 2011 Memorandum from the Assistant Secretary of the Army (Civil Works) the non-federal sponsor shall be 100% responsible for the cost of all actions taken due to the presence of residual agricultural chemicals, at no expense to the government and any future costs associated with the presence of residual agricultural chemicals at the federal project site are 100% a non-federal sponsor cost and responsibility. As stated in the September 14, 2011 Memorandum, normal project engineering and construction activities will remain part of the total project cost provided that these are the same activities required to implement the project features absent the presence of residual agricultural chemicals.
- 19. In addition to the aforementioned items of local cooperation, the USACE, the Assistant Secretary of the Army (Civil Works) and the non-federal sponsor agreed on the following concepts regarding water quality that is intended to govern the implementation and operation of CEPP project features:
- a. Restoration of the Everglades requires projects that address hydrologic restoration as well as water quality improvement. This has been recognized by the National Academy of Sciences in its most recent biennial report where it noted that near-term progress to address both water quality and water quantity improvements in the central Everglades is needed to prevent further declines of the ecosystem. The significant amount of water resulting from CEPP is contemplated to significantly improve restoration of the Everglades. Both the federal and state parties recognize that water quantity and quality restoration should be pursued concurrently and have collaborated to develop and concur on a suite of restoration strategies being implemented by the state to improve water quality ("State Restoration Strategies"), as well as other state and federal restoration projects, both underway and planned, to best achieve Everglades hydrologic

objectives. Specific examples of federally authorized projects include the Everglades Restoration Transition Plan, Modified Water Deliveries to Everglades National Park Project, and the Tamiami Trail Next Steps Project. One of the goals of these projects and their associated operating plans, as well as certain components of the CERP awaiting authorization or that are being planned as part of the CEPP is to improve water quantity and quality in the Everglades through more natural water flow within the remnant Everglades which includes the water conservation areas and ENP. Variations in flows of the C&SF system may result from a variety of reasons. These reasons include natural phenomena (e.g. weather) and updates to the operating manuals to achieve the purposes of the C&SF Project such as flood control and water supply.

- b. One goal of the Consent Decree is to restore and maintain water quality within ENP. The Consent Decree established, among other things, long-term water quality limits for water entering ENP to achieve this goal. The existing limits for ENP are flow dependent and, generally, increased volume of water results in a lower allowable concentration of phosphorus to maintain the overall load of phosphorus entering the ENP. There will be redistribution of flows and increased water volume above existing flows associated with system restoration efforts beyond the current State Restoration Strategies projects. The USACE and its federal and state partners recognize that to achieve long-term hydrologic improvement, water quality may be impacted, particularly as measured by the current Consent Decree Appendix A compliance methodology. The USACE and the state partners agree that the monitoring locations/stations for inflows to ENP will require revision. An evaluation of this and other aspects of the compliance methodology are currently being conducted by the Technical Oversight Committee (TOC).
- c. In an effort to address these potential impacts and determine updates to Appendix A to reflect increased inflows and new discharges into ENP since the Consent Decree was entered, the parties to the Consent Decree have established a process and scope for evaluating and identifying necessary revisions to the Appendix A compliance methodology utilizing the scientific expertise of the TOC. The TOC may consider all relevant data, including the 20 years of data collected since Appendix A was implemented. Ultimately, such evaluations and changes to the Appendix A compliance methodology would be recommended by the Consent Decree's TOC for potential agreement by all parties. Failure to develop a mutually agreed upon and scientifically supportable revised compliance methodology will impact the State's ability to implement or approve these projects.
- d. The aforementioned State Restoration Strategies will be implemented under a Clean Water Act discharge permit that incorporates and requires implementation of corrective actions required under a State law Consent Order, as well as a Framework Agreement between the U.S. Environmental Protection Agency and the state discharge permitting agency, the Florida Department of Environmental Protection, to ensure compliance with Clean Water Act and State water quality requirements for existing flows into the Everglades. The Clean Water Act permit for the state facilities, the associated Consent Order (including a detailed schedule for the planning, design, construction, and operation of the new project features), and technical support documents were reviewed by, and addressed all of, the U.S. Environmental Protection Agency's previous objections related to the draft NPDES permits, prior to issuance.

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- e. All parties are committed to implementing the State Restoration Strategies, joint restoration projects, and associated operational plans, in an adaptive manner that is consistent with the objectives of the underlying C&SF Project. The USACE and the state will use all available relevant data and supporting information to inform operational planning and decision making, document decisions made, and evaluate the resulting information from those decisions to avoid adverse impacts to water quality where practicable and consistent with the purposes of the C&SF Project. Based upon current and best available technical information, the federal parties believe at this time that the State Restoration Strategies, implemented in accordance with the State issued Consent Order and other joint restoration projects, are sufficient and anticipated to achieve water quality requirements for existing flows to the Everglades. If there is an exceedance of the Appendix A compliance limits, which results from a change in operation of a federal project, and it has been determined that an exceedance cannot be remedied without additional water quality measures, the federal and state partners agree to meet to determine the most appropriate course of action, including what joint measures should be undertaken as a matter of shared responsibility. These discussions will include whether it is appropriate to exercise any applicable cost share authority. If additional measures are required and mutually agreed upon, then they shall be implemented in accordance with an approved process, such as a general reevaluation report or limited reevaluation report, and if necessary, supported through individual project partnership agreements. Failure to develop mutually agreed upon measures and cost share for these measures may impact the state's ability to operate the federal project features.
- 20. The recommendation contained herein reflects the information available at this time and current departmental policies governing formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program or the perspective of higher review levels within the executive branch. Consequently, the recommendation may be modified before it is transmitted to the Congress as a proposal for authorization and implementation funding. However, prior to transmittal to Congress, the sponsor, the state, interested federal agencies, and other parties will be advised on any significant modifications and will be afforded an opportunity to comment further.

Thomas P. Bostick Lieutenant General, USA Chief of Engineers